

**LL1N 5.00/08/90 3.2SN OR BX**
**Weidmüller Interfaces GmbH & Co. KG**

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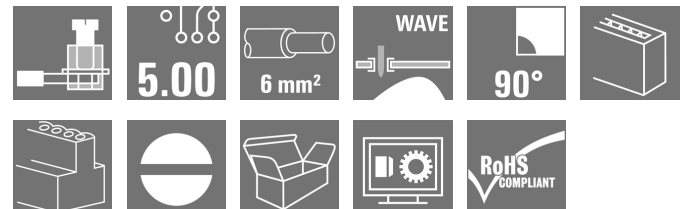
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**Product image**


Similar to illustration

Multi-row PCB terminals with proven clamping yoke connections, in 5.00 and 5.08 mm pitch. 90° conductor outlet direction. Suitable for conductor cross-sections up to 6.0 mm<sup>2</sup>.


**General ordering data**

|              |  |
|--------------|--|
| Version      | Printed circuit board terminals, 5.00 mm, Number of poles: 8, 90°, Solder pin length (l): 3.2 mm, tinned, orange, Clamping yoke connection, Clamping range, max. : 6 mm <sup>2</sup> , Box |
| Order No.    | <a href="#">1975310000</a>   |
| Type         | LL1N 5.00/08/90 3.2SN OR BX  |
| GTIN (EAN)   | 4032248672530  |
| Qty.         | 50 pc(s).  |
| Product data | IEC: 500 V / 32.5 A / 0.5 - 6 mm <sup>2</sup><br>UL: 300 V / 20 A / AWG 26 - AWG 12  |
| Packaging    | Box  |

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## Technical data

## Dimensions and weights

|                          |          |                 |            |
|--------------------------|----------|-----------------|------------|
| Depth                    | 10.84 mm | Depth (inches)  | 0.427 inch |
| Height                   | 34.3 mm  | Height (inches) | 1.35 inch  |
| Height of lowest version | 31.1 mm  | Width           | 40.64 mm   |
| Width (inches)           | 1.6 inch | Net weight      | 17.52 g    |

## Temperatures

|                             |        |                             |        |
|-----------------------------|--------|-----------------------------|--------|
| Operating temperature, min. | -50 °C | Operating temperature, max. | 120 °C |
|-----------------------------|--------|-----------------------------|--------|

## System parameters

|  |                             |  |                          |
|--|-----------------------------|--|--------------------------|
| Product family                               | OMNIMATE Signal - series LL | Wire connection method                     | Clamping yoke connection |
| Property, clamping point                     | WireReady                   | Mounting onto the PCB                      | THT solder connection    |
| Conductor outlet direction                   | 90°                         | Pitch in mm (P)                            | 5 mm                     |
| Pitch in inches (P)                          | 0.197 inch                  | Number of poles                            | 8                        |
| Pin series quantity                          | 1                           | Fitted by customer                         | Yes                      |
| Number of rows                               | 1                           | Max. adjacent poles per row                | 12                       |
| Solder pin length (l)                        | 3.2 mm                      | Solder pin dimensions                      | 0.75 x 0.9 mm            |
| Solder eyelet hole diameter (D)              | 1.3 mm                      | Solder eyelet hole diameter tolerance (D)  | + 0,1 mm                 |
| Number of solder pins per pole               | 1                           | Screwdriver blade                          | 0.6 x 3.5                |
| Screwdriver blade standard                   | DIN 5264                    | Tightening torque, min.                    | 0.5 Nm                   |
| Tightening torque, max.                      | 0.6 Nm                      | Clamping screw                             | M 3                      |
| Stripping length                             | 6 mm                        | L1 in mm                                   | 35 mm                    |
| L1 in inches                                 | 1.379 inch                  | Touch-safe protection acc. to DIN VDE 0470 | IP 20                    |
| Touch-safe protection acc. to DIN VDE 57 106 | Safe from finger touch      | Protection degree                          | IP20                     |

## Material data

|                                       |                  |                                       |        |
|---------------------------------------|------------------|---------------------------------------|--------|
| Insulating material                   | Wemid (PA)       | Colour                                | orange |
| Colour chart (similar)                | RAL 2000         | Insulating material group             | I      |
| Comparative Tracking Index (CTI)      | ≥ 600            | UL 94 flammability rating             | V-0    |
| Contact material                      | Copper alloy     | Contact surface                       | tinned |
| Coating                               | 4-6 µm SN        | Tinning type                          | matt   |
| Layer structure of solder connection  | 4...6 µm Sn matt | Storage temperature, min.             | -40 °C |
| Storage temperature, max.             | 70 °C            | Operating temperature, min.           | -50 °C |
| Operating temperature, max.           | 120 °C           | Temperature range, installation, min. | -25 °C |
| Temperature range, installation, max. | 120 °C           |                                       |        |

## Conductors suitable for connection

|   |                      |
|---|----------------------|
| Clamping range, min.  | 0.08 mm <sup>2</sup> |
| Clamping range, max.  | 6 mm <sup>2</sup>    |
| Wire connection cross section AWG, min.                             | AWG 26               |
| Wire connection cross section AWG, max.                             | AWG 12               |
| Solid, min. H05(07) V-U   | 0.5 mm <sup>2</sup>  |
| Solid, max. H05(07) V-U   | 6 mm <sup>2</sup>    |
| Flexible, min. H05(07) V-K  | 0.5 mm <sup>2</sup>  |
| Flexible, max. H05(07) V-K  | 4 mm <sup>2</sup>    |
| w. plastic collar ferrule, DIN 46228 pt 4, 0.5 mm <sup>2</sup> min. |                      |

Creation date March 9, 2023 2:04:26 PM CET

Catalogue status 03.03.2023 / We reserve the right to make technical changes.

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## Technical data

w. plastic collar ferrule, DIN 46228 pt 4, 2.5 mm<sup>2</sup> max.

w. wire end ferrule, DIN 46228 pt 1, 0.5 mm<sup>2</sup> min.

w. wire end ferrule, DIN 46228 pt 1, 2.5 mm<sup>2</sup> max.

Plug gauge in accordance with EN 60999 a x b; ø 2.8 mm x 2.4 mm; 3.0 mm

| Clampable conductor                    | Cross-section for conductor connection | Type                         | fine-wired                 |
|--|--|------------------------------|----------------------------|
|  |  |                              | nominal                    |
| wire end ferrule                       |  | Stripping length             | nominal 8 mm               |
|  |  | Recommended wire-end ferrule | <a href="#">H0.5/12 OR</a> |
|  |  | Stripping length             | nominal 6 mm               |
|  |  | Recommended wire-end ferrule | <a href="#">H0.5/6</a>     |
| Cross-section for conductor connection | Type                                   | fine-wired                   |                            |
|  | nominal                                | 0.75 mm <sup>2</sup>         |                            |
| wire end ferrule                       |  | Stripping length             | nominal 8 mm               |
|  |  | Recommended wire-end ferrule | <a href="#">H0.75/12 W</a> |
|  |  | Stripping length             | nominal 6 mm               |
|  |  | Recommended wire-end ferrule | <a href="#">H0.75/6</a>    |
| Cross-section for conductor connection | Type                                   | fine-wired                   |                            |
|  | nominal                                | 1 mm <sup>2</sup>            |                            |
| wire end ferrule                       |  | Stripping length             | nominal 8 mm               |
|  |  | Recommended wire-end ferrule | <a href="#">H1.0/12 GE</a> |
|  |  | Stripping length             | nominal 6 mm               |
|  |  | Recommended wire-end ferrule | <a href="#">H1.0/6</a>     |

Reference text Length of ferrules is to be chosen depending on the product and the rated voltage., The outside diameter of the plastic collar should not be larger than the pitch (P)

### Rated data acc. to IEC

| tested acc. to standard   |                        | Rated current, min. number of poles (Tu=20°C)                         |                   |
|---|------------------------|---|-------------------|
|   | IEC 60664-1, IEC 61984 |   | 32.5 A            |
| Rated current, max. number of poles (Tu=20°C)                             | 26 A                   | Rated current, min. number of poles (Tu=40°C)                         | 27.5 A            |
| Rated current, max. number of poles (Tu=40°C)                             | 22 A                   | Rated voltage for surge voltage class / pollution degree II/2         | 500 V             |
| Rated voltage for surge voltage class / pollution degree III/2            | 320 V                  | Rated voltage for surge voltage class / pollution degree III/3        | 250 V             |
| Rated impulse voltage for surge voltage class/ pollution degree II/2      | 4 kV                   | Rated impulse voltage for surge voltage class/ pollution degree III/2 | 4 kV              |
| Rated impulse voltage for surge voltage class/ contamination degree III/3 | 4 kV                   | Short-time withstand current resistance                               | 3 x 1s with 120 A |

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200039-1202191

## Technical data

## Rated data acc. to CSA

Institute (CSA)



Certificate No. (CSA)

|                                   |  |
|-----------------------------------|--|
| Rated voltage (Use group B / CSA) | 300 V  |
| Rated current (Use group B / CSA) | 20 A   |
| Wire cross-section, AWG, min.     | AWG 26   |
| Reference to approval values      | Specifications are maximum values, details - see approval certificate. |

|                                   |        |
|-----------------------------------|--------|
| Rated voltage (Use group D / CSA) | 300 V  |
| Rated current (Use group D / CSA) | 10 A   |
| Wire cross-section, AWG, max.     | AWG 12 |

## Rated data acc. to UL 1059

Institute (UR)



Certificate No. (UR)

|                                       |  |
|---------------------------------------|--|
| Rated voltage (Use group B / UL 1059) | 300 V  |
| Rated current (Use group B / UL 1059) | 20 A   |
| Wire cross-section, AWG, min.         | AWG 26   |
| Reference to approval values          | Specifications are maximum values, details - see approval certificate. |

|                                       |        |
|---------------------------------------|--------|
| Rated voltage (Use group D / UL 1059) | 300 V  |
| Rated current (Use group D / UL 1059) | 10 A   |
| Wire cross-section, AWG, max.         | AWG 12 |

## Packing

|           |        |            |        |
|-----------|--------|------------|--------|
| Packaging | Box    | VPE length | 192 mm |
| VPE width | 136 mm | VPE height | 43 mm  |

## Classifications

|             |             |             |             |
|-------------|-------------|-------------|-------------|
| ETIM 6.0    | EC002643    | ETIM 7.0    | EC002643    |
| ETIM 8.0    | EC002643    | ECLASS 9.0  | 27-44-04-01 |
| ECLASS 9.1  | 27-44-04-01 | ECLASS 10.0 | 27-44-04-01 |
| ECLASS 11.0 | 27-46-01-01 | ECLASS 12.0 | 27-46-01-01 |

## Important note

|                |   |
|----------------|---|
| IPC conformity | Conformity: The products are developed, manufactured and delivered according international recognized standards and norms and comply with the assured properties in the data sheet resp. fulfill decorative properties in accordance with IPC-A-610 "Class 2". Further claims on the products can be evaluated on request.  |
| Notes          | <ul style="list-style-type: none"> <li>Rated current related to rated cross-section &amp; min. No. of poles.</li> <li>Wire end ferrule without plastic collar to DIN 46228/1</li> <li>Wire end ferrule with plastic collar to DIN 46228/4</li> <li>P on drawing = pitch</li> <li>Rated data refer only to the component itself. Clearance and creepage distances to other components are to be designed in accordance with the relevant application standards.</li> <li>Long term storage of the product with average temperature of 50 °C and average humidity 70%, 36 months</li> </ul> |

**Data sheet**

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**Technical data**

**Approvals**

Approvals



|                       |            |
|-----------------------|------------|
| ROHS                  | Conform    |
| UL File Number Search | UL Website |
| Certificate No. (UR)  | E60693     |

**Downloads**

|   |   |
|---|---|
| Approval/Certificate/Document of Conformity | <a href="#">Declaration of the Manufacturer</a> |
| Engineering Data                            | <a href="#">CAD data – STEP</a>                 |
| Engineering Data                            | <a href="#">WSCAD</a>                           |
| Catalogues                                  | <a href="#">Catalogues in PDF-format</a>        |
| Brochures                                   | <a href="#">FL DRIVES EN</a>                    |
|   | <a href="#">FL ANALO.SIGN.CONV. EN</a>          |
|   | <a href="#">MB DEVICE MANUF. EN</a>             |
|   | <a href="#">FL DRIVES DE</a>                    |
|   | <a href="#">FL BUILDING SAFETY EN</a>           |
|   | <a href="#">FL APPL LED LIGHTING EN</a>         |
|   | <a href="#">FLIndustr.CONTROLS EN</a>           |
|   | <a href="#">FL MACHINE SAFETY EN</a>            |
|   | <a href="#">FL HEATING ELECTR EN</a>            |
|   | <a href="#">FL APPL INVERTER EN</a>             |
|   | <a href="#">FL BASE STATION EN</a>              |
|   | <a href="#">FL ELEVATOR EN</a>                  |
| <a href="#">FL POWER SUPPLY EN</a>          |   |
| <a href="#">FL 72H SAMPLE SER EN</a>        |   |
| <a href="#">PO OMNIMATE EN</a>              |   |
| <a href="#">PO OMNIMATE EN</a>              |   |

**Data sheet**

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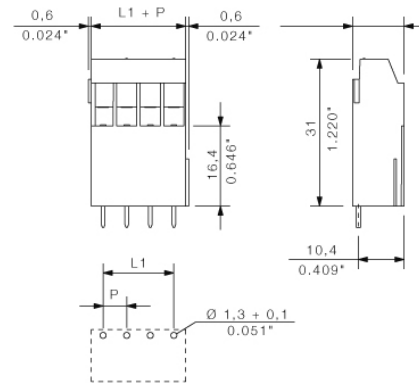
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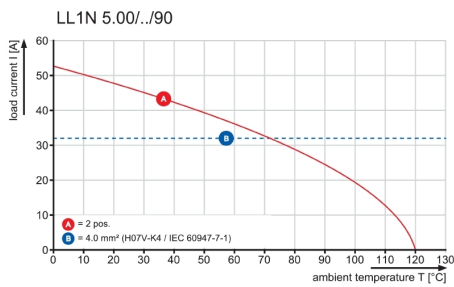
Fax. +49 5231 14-2083

**Drawings**

**Dimensional drawing** [info@weidmueller.com](mailto:info@weidmueller.com)



**Graph**



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|    |         |           |    |         |           |
|----|---------|-----------|----|---------|-----------|
| 24 | 116,84  | 4,600     | 24 | 115,00  | 4,528     |
| 23 | 111,76  | 4,400     | 23 | 110,00  | 4,331     |
| 22 | 106,68  | 4,200     | 22 | 105,00  | 4,134     |
| 21 | 101,60  | 4,000     | 21 | 100,00  | 3,937     |
| 20 | 96,52   | 3,800     | 20 | 95,00   | 3,740     |
| 19 | 91,44   | 3,600     | 19 | 90,00   | 3,543     |
| 18 | 86,36   | 3,400     | 18 | 85,00   | 3,346     |
| 17 | 81,28   | 3,200     | 17 | 80,00   | 3,150     |
| 16 | 76,20   | 3,000     | 16 | 75,00   | 2,953     |
| 15 | 71,12   | 2,800     | 15 | 70,00   | 2,756     |
| 14 | 66,04   | 2,600     | 14 | 65,00   | 2,559     |
| 13 | 60,96   | 2,400     | 13 | 60,00   | 2,362     |
| 12 | 55,88   | 2,200     | 12 | 55,00   | 2,165     |
| 11 | 50,80   | 2,000     | 11 | 50,00   | 1,969     |
| 10 | 45,72   | 1,800     | 10 | 45,00   | 1,772     |
| 9  | 40,64   | 1,600     | 9  | 40,00   | 1,575     |
| 8  | 35,56   | 1,400     | 8  | 35,00   | 1,378     |
| 7  | 30,48   | 1,200     | 7  | 30,00   | 1,181     |
| 6  | 25,40   | 1,000     | 6  | 25,00   | 0,984     |
| 5  | 20,32   | 0,800     | 5  | 20,00   | 0,787     |
| 4  | 15,24   | 0,600     | 4  | 15,00   | 0,591     |
| 3  | 10,16   | 0,400     | 3  | 10,00   | 0,394     |
| 2  | 5,08    | 0,200     | 2  | 5,00    | 0,197     |
| n  | L1 [mm] | L1 [Inch] | n  | L1 [mm] | L1 [Inch] |

For the mounting of PCBs, it should be noted that the rated data relates only to the PCB components alone.  
 The necessary creepage and clearance paths must be observed in connection with the respective applicant in accordance to IEC 664 / VDE 0110.  
 The current-carrying capacity and pitch tolerance is to be determined according to DIN IEC 326 part 3 very fine.

Weidmueller PCB components are tested to the DIN EN 61984 standard, and are valid for its field of application. Provided that the components are used to the intended purpose, all requirements with respect to the occurring of electrical, mechanical, thermic and corrosive stress will be satisfied.

|                                       |  |                                 |            |            |   |
|---------------------------------------|--|---------------------------------|------------|------------|---|
| General tolerance:<br>DIN ISO 2768-mK |  | 91592/5<br>15.02.17 HELIS_MA 00 |            | Cat.no.: . |   |
|                                       |  | Modification                    |            |            |   |
|                                       |  | Drawn                           | Date       | Name       | Drawing no. <b>3 42533</b> Issue no. <b>03</b><br>Sheet 00 of 00 sheets |
| Scale: 2:1                            |  | Responsible                     | 17.02.2017 | HELIS_MA   | <b>LL1N 5.0x</b><br>LEITERPLATTENKLEMME<br>PCB TERMINAL                 |
| Supersedes: .                         |  | Checked                         | Approved   | LANG_T     |   |

## Recommended wave soldering profiles

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 Germany  
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### Single Wave:



### Double Wave:



### Wave soldering profiles

Wired connection elements should be processed in accordance with the DIN EN 61760-1 standard. We have included two recommendations for practical wave soldering profiles, with which Weidmüller PCB terminals and connectors are qualified.

When choosing a suitable profile for your application, the following factors also need to be considered:

- PCB thickness
- Proportion of Cu in the layers
- Single/double-sided assembly
- Product range
- Heating and cooling rates

The single and double wave profiles each indicate the recommended operating range, including the maximum soldering temperature of 260°C. In practice, the maximum soldering temperature is quite often well below the above maximum profile.